Ehrenberg-Bass Institute **Academic Paper**:

An investigation of variation in brand growth and decline across categories

This paper, dated 14 October 2014, was published in the ***International Journal of Market Research****.*

Authors:

Assoc. Professor Giang Trinh - Ehrenberg-Bass Institute
Dr Zac Anesbury - Ehrenberg-Bass Institute

FORUM

An investigation of variation in brand growth and decline across categories

Giang Tue Trinh and **Zachary William Anesbury**
Ehrenberg-Bass Institute for Marketing Science, University of South Australia

This study investigates the variation in brand growth and decline across many different product categories. It uses recent consumer panel data from the UK, covering 639 brands across 28 categories, including food, personal care, home care and pet food, over a five-year period from 2008 to 2012. Consistent with the literature, the study finds that most brands in the consumer packaged goods market are stationary, as only 14% of the brands change their market share by more than three points. However, the study discovers that some categories are more dynamic than others. The percentage of brands that change their share by more than three points is different across the categories, varying from 0% to 44%. The study further examines some potential factors that can affect the variation and finds that category penetration and purchase frequency have significant effects on the variation. The lower the category penetration and category purchase frequency, the lower the brand share stationarity. On the other hand, proportion of sales on promotion in the category and new SKU introductions do not have a significant effect on the variation.

Introduction

Marketing practitioners spend a great deal of money and effort to increase their brands' market share. In order to do so they commission activities such as new creative advertisements, new product development and price promotions, to help increase the number of buyers and/or the frequency of those buyers that purchase their brand. Empirical evidence, however, has shown that these actions tend to lean towards short-term brand market share gains, but the norm is long-term equilibrium (Dekimpe & Hanssens 1995;

Received (in revised form): 14 October 2014

DOI: 10.2501/IJMR-2015-032

Pauwels *et al.* 2002; Graham 2009). Short-term gains often cause competitor responses, which in turn neutralise any gains (Bass & Pilon 1980; Srinivasan *et al.* 2000). This, then, means that marketers are simply running hard to stand still as, in the long term, marketing activities mostly maintain market share as opposed to growing brands.

The stationarity of markets has regularly been shown with the Dirichlet model (Goodhardt *et al.* 1984; Ehrenberg 1994). The Dirichlet model is a theoretical statistical model of multi-brand buying behaviour that captures the steady habitual purchasing propensities of consumers. For a very long time, vast varieties of categories have successfully fitted the model, from fast-moving consumer goods (fmcg) through to petrol, cars and magazines, across a wide range of markets, including the United Kingdom (Ehrenberg 1988; Graham 2009), United States (Uncles *et al.* 1995), New Zealand (Sharp & Sharp 1997), Australia (Wright *et al.* 2002), Japan (Fader & Schmittlein 1993), Italy (Corsi *et al.* 2011), Greece (Krystallis & Chrysochou 2010) and, more recently, China (Uncles *et al.* 2010). Because the model has generalised to so many categories and to so many populations for a long time, it is referred to as marketing's true scientific law (Sharp 2010).

Deviations from the model, such as 'niche' or 'change of pace' brands, sometimes do occur. Niche brands have higher loyalty than expected, while change-of-pace brands have more customers buying them than expected (given their size). This might be a result of non-stationarity where there are some brands that grow or decline or where markets have known functional differences, consumer variety-seeking behaviour or differences in brand user profiles (Sharp & Driesener 2000). For example, a change-of-pace brand might be a result of a growing brand that recently has acquired more distribution channels, which has more customers but lower loyalty than expected due to undeveloped buying habits at the new channels. Questions that have not been asked yet are whether some categories show more dynamic brands than others. If so, what are the reasons for the non-stationarity? Answering these questions will help determine what causes volatility by documenting what categories deviate from the expected pattern. This is important for marketers to know, as if they wanted to drive growth for their brand, this type of information can aid in undertaking any marketing actions and decisions.

While there has been a number of papers that have demonstrated that the majority of categories are stationary, there are some potential reasons as to why a category may not be stable. First, new products may cause the market to become non-stationary. A study conducted by Nijs *et al.* (2001) found that the successful introduction of new products into a category is more frequently associated with a permanent category demand increase. However, Wright and Sharp (2001) reported that there are no obvious effects of new products on category stability. Second, it has been suggested that price promotions can cause market non-stationarity (Ailawadi 2001). Yet, there is mixed evidence on the impact of price promotions on long-term category sales expansion. Lal and Padmanabhan (1995) find that markets end up in equilibrium due to competitive reactions to price promotions; Dawes (2004) finds no long-term sales gains from price promotions due to subsequent category sales declines caused by consumer stockpiling. Increasing the number of price promotions resulted in higher category sales, while higher frequencies had the opposite affect (Raju 1992). Pauwels *et al*. (2002) find virtually no effects caused by permanent promotion.

Although it has been established that marketing activity does not affect most brand market shares in the medium and even long term, there is recognition that marketing activity has different effects on different types of category (Raju 1992; Dhar *et al.* 2001). For example, Dhar *et al*. (2001) show that price, promotion and assortment have different effects on different types of category. In their study, the authors used a category classification outlined by the Food Marketing Institute (FMI) that was previously used by (Fader & Lodish 1990) (see Figure 1). FMI classifies categories according to the penetrations and purchase frequencies of the entire categories. For example, high-penetration and high-frequency categories are staples (as most households buy them and need to buy them regularly), such as milk, eggs, bread, soda, salted snacks and canned soup. Whereas, at the opposite end of the scale, low-penetration and low-frequency categories are fill-ins (infrequently purchased items by few households), such as paper bags, batteries and shaving cream. Another two types of category include variety enhancers (high penetration and low purchase frequency) and niches (low penetration and high purchase frequency). Examples include variety enhancers (condiments and paper goods) and niches (pet foods, baby supplies and smokers' needs). Based on this classification, the authors found that temporary price reductions have an impact only on staple categories, while product display has the most impact on fill-ins. They also discovered that assortment has no impact on staple categories but a significant impact on variety enhancers, niches and fill-ins.

In summary, while a vast number of studies have demonstrated that a majority of fmcg brands are stationary in the medium and long term, this research is needed to fill the void where there is a lack of studies comparing the level of brand stationarity across categories. For a brand manager, it is more useful to know the degree of brand stationarity at the category level

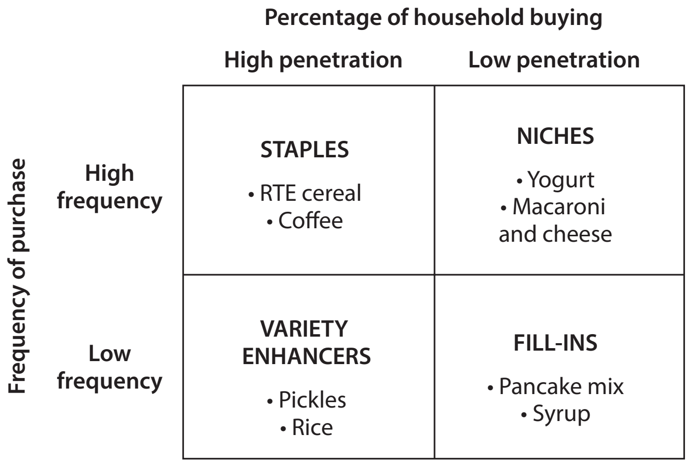

Figure 1 Category classification

rather than at the overall market. For example, if the overall market is mostly stationary, but the specific category that the manager operates in has a high level of non-stationarity, the manager then needs to carry out a marketing strategy for a dynamic condition rather than for a stable condition.

Therefore, this paper aims to answer the following research questions.

- Is there any variation in brand growth and decline across categories?
- If there is variation across categories, can this be explained by category characteristics such as category penetration, category purchase frequency, the prevalence of category price promotion, and the prevalence of new SKUs introduced during the analysis period?

Method

This study looks at consumer packaged goods data from Taylor Nelson Sofres (TNS/Kantar) (TNS 2011) over a period of five years (2008 to 2012). The data acquired are panel data from approximately 35,000 households that are demographically and geographically representative of the UK. The analysis covers 639 brands across 28 categories, including food, personal care, home care and pet food. Following previous studies, extremely small brands (brands with less than 1% market share) were excluded from the analysis so that they will not bias the results (Baldinger *et al.* 2002; Dawes 2009).

First, the change in brand market shares over the five-year period were calculated by taking brand market share in 2012 minus brand market share in 2008, to determine how many brands have grown or declined by 1%, 2%, … *n*% share points. This approach was used to determine if brands are stationary and is similar to the one presented in previous studies (e.g. Ehrenberg 1988; Baldinger *et al*. 2002; Graham 2009). Next, the distribution variance of the number of brands that grow or decline for each category was calculated. A category that has a higher variance than normal means there are more dynamic brands in that category, and consequently there is more of a chance for brand growth. We then compared the variance across categories to see if there is any difference. This analysis helps us to answer the first research question.

If there are any differences in the variance in brand growth and decline across categories, we then investigated whether or not there is any association with the potential explanatory variables, including category penetration, category purchase frequency, proportion of sales on promotion and proportion of new SKUs. This analysis then helps us to answer the second research question.

Results

Overall, of the 639 brands across 28 categories, only 14% change their market share by more than three points (see Figure 2). Consistent with the findings from previous research (Dekimpe & Hanssens 1995; Graham 2009), this finding shows that most brands in consumer packaged good markets are stationary.

However, if we analyse the category level, the percentage of brands that change their share by more than three points is different across categories, ranging from 0% to 44%. Figure 3 shows the variance in brand growth and decline across categories. From Figure 3, we can see there are marked differences across categories, as the variance ranks from 1 (ready to eat

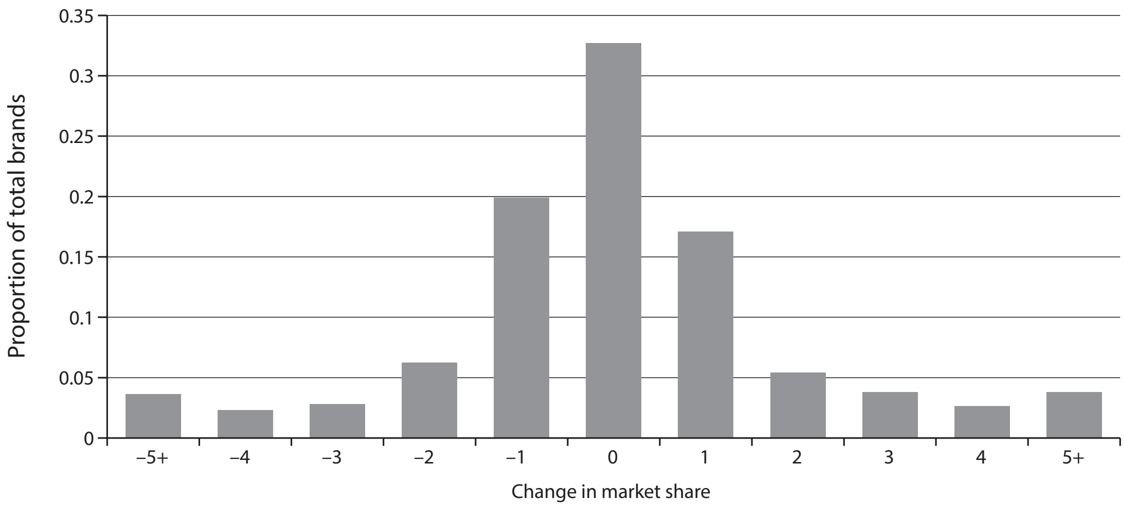

Figure 2 Distribution of brand growth and decline (all categories)

(RTE) cereal) to 38 (cappuccino standard coffee). This result shows that some categories are more dynamic than others. Figures 4 and 5 graphically demonstrate the difference, as there are larger share changes in Figure 4 than in Figure 5 between the two categories.

Table 1 shows the relationship between the category's characteristics and the variance in brand growth and decline. Category penetration and category purchase frequency have significant effects on the variance (p-value < 0.05) as, the higher the penetration or purchase frequency, the lower the variance. On the other hand, price promotion and new SKUs have no significant effects on the variance (p-value > 0.05).

Table 2 shows the average variance of the four types of category, as per Dhar *et al*. (2001). The results state that there is a significant difference in the variance across the four types of category (p-value <0.05). The fill-ins category has a markedly higher variance than the other category types (17 versus 3 or 4), which means that there are significantly more dynamic brands in the fill-ins category than other categories.

Discussion

The marketing literature shows strong evidence towards overall market stationarity. We have confirmed this result with our more recent long-term

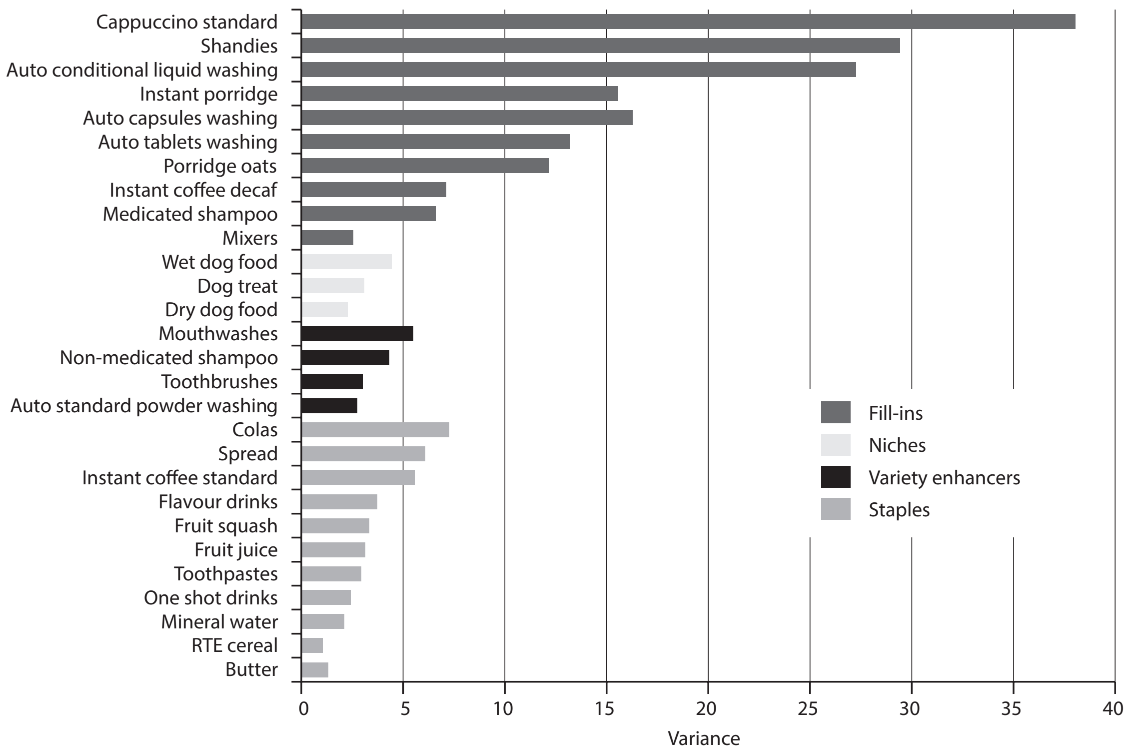

Figure 3 Variation in brand growth and decline

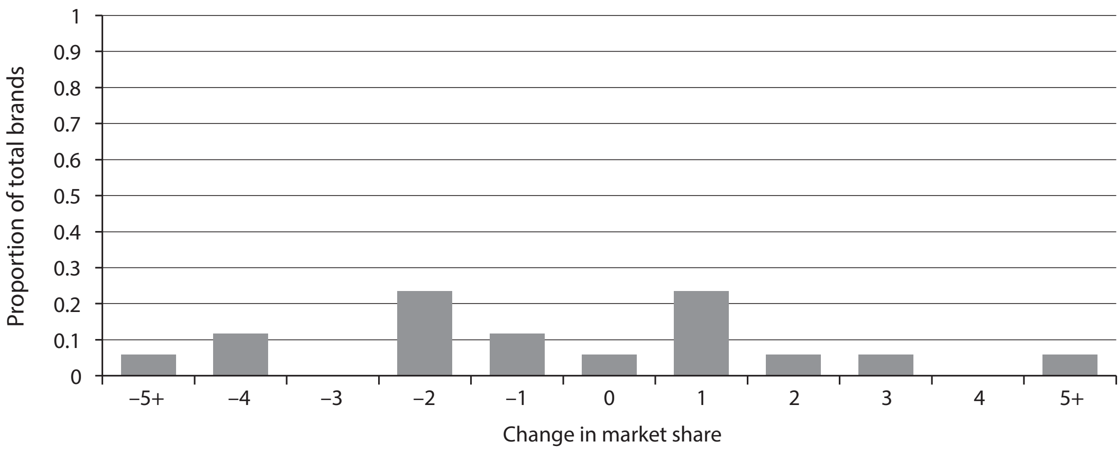

Figure 4 Distribution of brand growth and decline (Cappuccino standard)

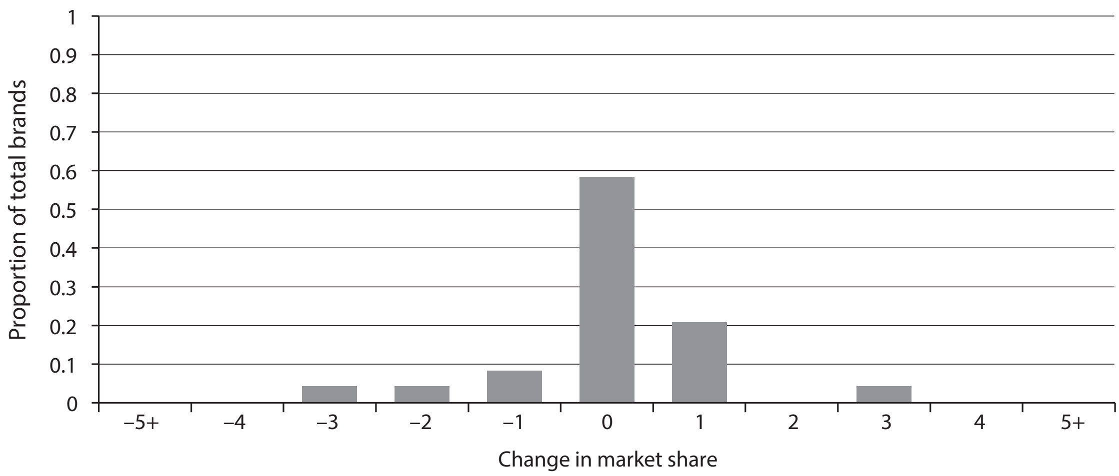

Figure 5 Distribution of brand growth and decline (RTE cereal)

Table 1 Relationship between the variance and category characteristics

Category characteristics	Beta coefficient	*p*-value	*r*-squared
Penetration	–0.19	0.005	0.26
Purchase frequency	–0.39	0.015	0.20
% promotion	0.16	0.388	0.03
% new SKU	0.24	0.169	0.07

data, despite identifying that there is variation in brand share stationarity across categories. That said, there is more brand growth and decline in some categories than in others, such as auto conditional liquid washing, cappuccino standard coffee, shandies and instant porridge. We further examined the variation correlation with category characteristics, including penetration, purchase frequency, price promotion and new SKU introduction.

Table 2 ANOVA test of significant difference between categories

Category types	No. of categories	Average variance	Test statistics
Staples	11	4	$F = 7.528$ p-value = 0.001 F crit = 3.009
Variety enhancers	4	4	
Niches	3	3	
Fill-ins	10	17	

The results show that category penetration and category purchase frequency significantly correlate with the variation in brand growth and decline across the categories. Hence, there is less brand share stationarity when categories have lower penetrations and purchase frequencies. On the other hand, category price promotion and new SKU introduction do not have a significant effect on the variation.

Our results also support the previous proposition that marketing interventions have limited effects on long-term equilibrium (Ehrenberg 1988; Graham 2009). The variation in brand growth and decline is more related to category type rather than marketing interventions, such as price promotions and new product introduction. The fill-ins category, characterised by lower penetration and lower purchase frequency, is the one type of category that has the most brand growth and decline.

Thus, the results found in this study help to understand the potential factors that can affect the variation in brand growth and decline across categories. This finding is particularly useful for both manufacturers and retailers who would like to identify new opportunities for growth. For example, by introducing a new brand in the fill-ins type market, the manufacturer is more likely to experience growth than if it were to introduce their new product into another type of market. On the other hand, our results also alarm brand managers who currently operate in the fill-ins type of market, as they also have a higher chance of losing market share to their competitors compared to other markets. For retailers, as they can easily identify the successful new brand based on their own sales data, they could let the manufacturer launch the new product to avoid the development and advertising costs, then introduce a similar private label to the successful new launch with relatively lower price to raise barrier to other manufacturers to enter the market.

Past research at the brand level shows that, when long-term market share change occurs, it is a function of change in penetration as per the Double Jeopardy pattern (Ehrenberg 1988; Dawes 2009; Graham 2009; Riebe *et al*. 2014; Romaniuk *et al*. 2014). As such, marketing activity focusing on maintaining and developing penetration is crucial to be successful in this environment; and such marketing activity can be obtained through increasing both the brand's physical and mental availability (i.e. the number of places the brand is available to be purchased and the number of people who have memory structures related to the brand) (Sharp 2010).

Acknowledgements

The authors would like to thank two anonymous reviewers and colleagues at the Ehrenberg-Bass Institute for their helpful comments and suggestions, which have led to an improved article.

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About the authors

Giang Tue Trinh is a Lecturer and Senior Research Associate at the Ehrenberg-Bass Institute for Marketing Science, University of South Australia. His key areas of research are modelling consumer purchasing behaviour, brand competition, market structure, price promotion and new product launch. His works have been published or accepted for publication at *Marketing Letters*, *Advances in Consumer Research*, *Journal of Retailing and Consumer Services*, *Australasian Journal of Marketing*, *Journal of Consumer Behaviour* and the *Journal of Product and Brand Management*.

Zachary William Anesbury is a Senior Research Associate at the Ehrenberg-Bass Institute for Marketing Science, a highly recognised and valued service provider that bridges the gap between academic research and industry application. Zachary's area of expertise is consumer behaviour within a retail environment, with a focus on online retailing. His research has also focused on how brands compete over time.

Address correspondence to: Giang Tue Trinh. Ehrenberg-Bass Institute, School of Marketing, University of South Australia, 70 North Terrace Adelaide 5000, Australia.

Email: Giang.Trinh@marketingscience.info